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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/721,709

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Ram Prabhakar

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12/16/2009

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EXAMINER

LEE, Y YOUNG

ART UNIT

PAPER NUMBER

2621

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/721,709	Applicant(s) PRABHAKAR ET AL.	
	Examiner Y. Lee	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 41-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Youn (7,113,646) in view of Eifrig et al (5,974,184).

Youn, in Figure 2, discloses a decoding method of predicted AC coefficients that is substantially the same dynamic AC prediction method as specified in claims 41-60 of the present invention, comprising performing DC prediction, using a first circuit 64, for a first macroblock using DC coefficients 62 associated with at least one macroblock adjacent to the first macroblock (e.g. Fig. 8); performing AC prediction, using a second circuit (e.g. 74-78 and 54-66), for the first macroblock using AC coefficients 60 associated with the at least one macroblock; determining whether an overflow condition 80 is to occur in a first data packet if the

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first macroblock is encoded in the first data packet (e.g. using current Q step size); if no overflow condition is to occur, supplying AC predict coefficients 60 and DC predict coefficients 62 for encoding the first macroblock in the first data packet 66; if the overflow condition is to occur (e.g. scale factor adjustment), supplying the AC coefficients and the DC predict coefficients for encoding the first macroblock in a second data packet (e.g. using a new Q step size).

With respect to claims 42-60, Youn also discloses enabling AC prediction for encoding a plurality of macroblocks in the second data packet, wherein the plurality of macroblocks are distinct from the first macroblock (e.g. Fig. 9); determining whether the overflow condition 80 is to occur in the first data packet prior to performing further AC prediction for the first macroblock (e.g. 58, 66); if the overflow condition is to occur, performing a second DC prediction 64 for the first macroblock; wherein the performing the DC prediction, the performing the AC prediction, the determining whether an overflow condition is to occur are performed in a data partition mode (e.g. blocks); if no overflow condition is to occur (e.g. using the same Q step size), determining a predict direction (e.g. motion vector components) associated with the DC prediction (e.g. Fig. 8) and the AC prediction (e.g. Fig. 9); if the predict direction is determined to be horizontal/vertical, generating a signal for performing an alternate-horizontal/vertical scan (e.g. Fig. 4); if the overflow condition is to occur, generating a signal for performing a zig-zag scan 63; wherein the DC coefficients and the AC coefficients comprise a transform coefficient data set, and wherein the transform coefficient data set is generated using a discrete cosine transform 56; before determining whether the overflow condition 80 is to occur, determining a macroblock type (e.g. intra) of the first macroblock; if the first macroblock comprises an inter (e.g. non-I) block, supplying the AC coefficients 60 and the DC coefficients 62 for encoding the first macroblock in

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the first data packet 66; if the first macroblock comprises an intra block, determining an AC prediction mode status (e.g. no motion vector) associated with the AC prediction; if the AC prediction is disabled (e.g. no motion vector for intra blocks), supplying the AC coefficients 60 and the DC predict coefficients 62 for encoding the first macroblock in the first data packet 66; and if the AC prediction is enabled (e.g. motion vector for inter block), supplying the AC predict coefficients 60 and the DC predict coefficients 62 for encoding the first macroblock in the first data packet 66.

Although Youn discloses the concept of common buffer controlled intra/inter prediction associated without/with motion vectors, it is noted Youn differs from the present invention in that it fails to particularly disclose details of disabling AC prediction as specified in claims 41-60. Eifrig et al however, in Figures 3 and 5, teaches the concept of well known options of enabling/disabling AC prediction for encoding a macroblock.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both the references of Youn and Eifrig et al before him/her, to exploit the well known technique of suspending further AC prediction for a macroblock as taught by Eifrig et al in the dynamic AC prediction method of Youn in order to reduce the amount of data if an overflow condition is to occur.

Response to Arguments

4. Applicant's arguments with respect to claims 41-60 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (571) 272-7334. The examiner can normally be reached on (571) 272-7334.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Young Lee/
Primary Examiner
Art Unit 2621

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